Claims Appendix

1. A polyol composition suitable for the preparation of a rigid polyisocyanate-based foam comprising:

a) blowing agent comprising formic acid, wherein said formic acid comprising 1.5 to 3.5 parts per 100 parts by weight of said polyol composition including said formic acid;

b) an aromatic polyol comprising an aromatic polyoxyalkylene polyol based on an initiator obtained from the condensation of a phenol with an aldehyde, wherein said aromatic polyoxyalkylene polyol comprising at least 20 weight percent based on total weight of the polyol composition; and

c) a physical blowing agent, wherein said physical blowing agent comprising 4 to 10 parts per 100 parts by weight of said polyol composition , and wherein said physical blowing agent being a hydrocarbon selected from the group consisting of butane, pentane, cyclopentane, hexane, cyclohexane, heptane, and isomers thereof.

2) (Cancelled).

3) (Cancelled).

4) (Cancelled).

5) (Cancelled)

6) (Cancelled)

7) (Cancelled)

8) The polyol composition of Claim 1, wherein said polyol composition further comprising an aromatic polyester polyol.

9) A multi component system suitable for the preparation of rigid polyisocyanate-based foam comprising:

a first component, said first component being an aromatic polyisocyanate; and

a second component, said second component being a polyol composition as claimed in Claim 1.

10) A process for preparing a polyisocyanate-based foam which comprises bringing together under foam-forming conditions a polyisocyanate with a polyol composition as claimed in Claim 1.

11) The process of Claim 10, wherein the polyisocyanate is present in an amount to provide for an isocyanate reaction index of from about 80 to about 150.

12) The process of Claim 10, wherein the polyisocyanate is present in an amount to provide for an isocyanate reaction index of from about 150 to about 600.

13) A polyurethane foam obtained by bringing together under foam-forming conditions a polyisocyanate with a polyol composition characterized in that:

a) the polyisocyanate is present in an mount to provide for an isocyanate reaction index of from 80 to 150; and

b) the polyol composition comprises (i) formic acid, wherein said formic acid comprising 1.5 to 3.5 parts per 100 parts by weight of said polyol composition including said formic acid; (ii) an aromatic polyoxyalkylene polyol based on an initiator obtained from the condensation of a phenol with an aldehyde, wherein said aromatic polyoxyalkylene polyol comprising at least 20 weight percent based on total weight of the polyol composition; and (iii) a physical blowing agent, wherein said physical blowing agent comprising 4 to 10 parts per 100 parts by weight of said polyol composition , and wherein said physical blowing agent being a hydrocarbon selected from the group consisting of butane, pentane, cyclopentane, hexane, cyclohexane, heptane, and isomers thereof.

14) A polyisocyanurate foam obtained by bringing together under foam-forming conditions a polyisocyanate with a polyol composition characterized in that:

a) the polyisocyanate is present in an mount to provide for an isocyanate reaction index of from 150 to 600; and

b) the polyol composition comprises (i) formic acid, wherein said formic acid comprising 1.5 to 3.5 parts per 100 parts by weight of said polyol composition including said formic acid; (ii) an aromatic polyoxyalkylene polyol based on an initiator obtained from the condensation of a phenol with an aldehyde, wherein said aromatic polyoxyalkylene polyol comprising at least 20 weight percent based on total weight of the polyol composition; and (iii) a physical blowing agent, wherein said physical blowing agent comprising 4 to 10 parts per 100 parts by weight of said polyol composition , and wherein said physical blowing agent being a hydrocarbon selected from the group consisting of butane, pentane, cyclopentane, hexane, cyclohexane, heptane, and isomers thereof.

15) A laminate comprising the polyurethane foam of Claim 13 or Claim 14.

16) (Cancelled).

17) (Cancelled).

18) (Cancelled).

19) A process for preparing a closed-celled polyisocyanurate foam by bringing into contact under foam-forming conditions a polyisocyanate with a polyol composition in the presence of a blowing agent mixture wherein the polyol composition comprises an aromatic polyester polyol and an aromatic polyether polyol and wherein the blowing agent mixture comprises formic acid and a hydrocarbon selected from the group consisting of butane, pentane, cyclopentane, hexane, cyclohexane, and heptane, and the isomers thereof, said formic acid comprising 1.5 to 3.5 parts per 100 parts by weight of said polyol composition including said formic acid, wherein said physical blowing agent comprising 4 to 10 parts per 100 parts by weight of said polyol composition, and characterized in that the polyisocyanate is present in an amount to provide for an isocyanate reaction index of from greater than 150 to about 600.

20) The process of Claim 19, wherein the polyisocyanate is an aromatic polyisocyanate having on average from 2.8 to 3.2 isocyanate groups per molecule.

21) (Cancelled).

22) A two component foam forming system comprising:

a) An aromatic polyisocyanate having an average of from 2.8 to 3.2 isocyanate groups per molecule; and

b) A polyol composition that contains: (i) an aromatic polyester polyol and an aromatic polyether polyol

based on an initiator obtained from the condensation of a phenol with an aldehyde, wherein said aromatic polyoxyalkylene polyol comprising at least 20 weight percent based on total weight of the polyol composition; and (ii) a blowing agent mixture comprising formic acid and a hydrocarbon selected from the group consisting of butane, pentane, cyclopentane, hexane, cyclohexane, and heptane, and the isomers thereof, wherein said formic acid comprising 1.5 to 3.5 parts per 100 parts by weight of said polyol composition including said formic acid, and wherein said physical blowing agent comprising 4 to 10 parts per 100 parts by weight of said polyol composition.

23) A method of improving fire retardancy of a polyisocyanate-based foam comprising the steps of:

providing a polyol composition comprising;

a) blowing agent comprising formic acid, wherein said formic acid comprising 1.5 to 3.5 parts per 100 parts by weight of said polyol composition including said formic acid;

b) an aromatic polyol comprising an aromatic polyoxyalkylene polyol based on an initiator obtained from the condensation of a phenol with an aldehyde, wherein said aromatic polyoxyalkylene polyol comprising at least 20 weight percent based on total weight of the polyol composition; and

c) a physical blowing agent, wherein said physical blowing agent being a hydrocarbon selected from the group consisting of butane, pentane, cyclopentane,

hexane, cyclohexane, heptane, and isomers thereof, and wherein said physical blowing agent comprising 4 to 10 parts per 100 parts by weight of said polyol composition;

providing a polyisocyanate;

bringing together under foam-forming conditions said polyol composition and said polyisocyanate; and

thereby forming a polyisocyanate-based foam having an improved fire retardancy.

24) The method of improving fire retardancy of a polyisocyanate-based foam according to Claim 23, wherein said polyisocyanate is an aromatic polyisocyanate having on average from 2.8 to 3.2 isocyanate groups per molecule.

25) The method of improving fire retardancy of a polyisocyanate-based foam according to Claim 23, wherein said foam being a laminate.

IX. Evidence Appendix

(1.) Declaration of Paolo Golini under § 1.132
(2.) Appendix A

X. Related Proceedings Appendix

No Related Proceedings